/119 cont./

000 and bilocal groups of families. The group of families -- the
621 multiplicity of relationships permits no other designation --
431 is therefore the next smaller constituent element of the village unit; to be sure, the ceremonial gift-exchange emphasizes the subdivision of the village, in that it underlines the affiliation of the partner to one of the two other groups of families, but, on the other hand, also joins the three groups of families as common inhabitants of the same village.

It might now seem that the group of families, which appears in the gift-exchange as a functional unit, is only a chance conglomeration of nuclear families and thus of minor importance.
62 It comes into operation, however, on another decisive occasion,
166 namely, in connection with /120/ the migratory movements, which I shall sketch for you in a few words. The inhabitants of a
[361] village never remain longer than about three to four weeks in their
[342] main village, that clearing in the virgin forest with relatively permanently built houses; then they leave home for a period at least equally long, but seldom farther away than one to two days of travel, and build themselves in a favorable spot in the forest a row of small, triangular huts which are just large enough to provide room for a nuclear family, i.e., the parents and their unmarried children. The new place is chosen according to the
262 possibilities that it offers for gathering forest fruits and for hunting;
245 nevertheless economic reasons are not actually the cause for this
174 migration, for even during this period they continue to live from
166 the very fruitful banana planting near the main village. About every ten days a group of men go and fetch additional supplies of bananas, which the Waika today use for about 90 per cent
[222] of their diet. To be sure, during this forest period they live on
[224] gathered fruits and by hunting more than they do in the main village, and we shall therefore hardly go wrong in assuming that there are involved in these short-term forest sojourns traditionally preserved reminiscences of the era of pure hunting for wild food on the part of the Waika, undoubtedly still not very far in the past.

/79 cont./

241 wood is well dried out, the clearing is set afire and the potash that remains constitutes fertilizer at the same time. Large trunks, stumps, and branches that did not burn up are simply left lying
[361] and the crops are planted in between (Ill. 37). Only in the center of the clearing is a circle about 50-60 meters in diameter completely cleaned up, for here an open or closed circular maloka
[622] is erected. This roça (forest clearing) -- hikarí --, which surrounds the community house, is then divided up by the chief among the individual families, so that they may plant here banana plants, pupunha palms, manioc, taioba, carâ, cotton,
[462] tobacco, etc. (368). Clearing and planting, along with weeding,

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368. Since an interest in agriculture has not been aroused in all families, however, it happens that some may relinquish their share, which is then worked by another family.

falls to the men; the women help only with the harvest. Since
[134] the soil is very infertile, however, /80/ for it has only a thin humus layer which is constantly being leached out by the tropical rains, the cultivation of tubers is possible for at most three years (369).

[132]

369. The luxuriant growth of the forest may be explained only by the humidity and warmth of the climate, which, like hothouse air, accelerates the circulation of nutrients.

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166 Then the work of clearing and burning off begins anew beyond the previous circular strip of field. This may be repeated several times, so that the maloka is finally surrounded by three, four, or more ring-shaped fields, until one day the tribe builds its maloka
● 245 at another place and lays out new fields. Banana trees and pupunha palms are left standing in the old clearings, but are always planted also in the new ones, since these fruit trees yield for 6-8 years or 50 years (pupunha palm); their fruits are regularly harvested, even on long-abandoned, distant fields.

/80 cont./

●245 [262] Among the vegetable foods of the Surára and Pakidái, bananas, of which I found nine different varieties, occupy first place today. Of these, in turn, the most frequently cultivated is the mealy banana (Musa paradisiaca normalis; the regional caboclo population calls it pacovinha) -- kuratá -- (372).

[194] 372. With regard to its origin, Sauer writes: "The plantains and bananas (Musa paradisiaca) originated in southeastern Asia and were there bred into a great variety of seedless cultivated forms. Their presence in the New World is considered by many as due to post-Columbian introduction" /cited in English/ (Sauer, 1950, p. 526).

192 245 Kuratá, however, is also the general designation for all bananas (373). In addition, the following special names were

[184] 373. Zerries gives the same name with regard to the Waiká (Zerries, 1956b, pp. 152, 155), and Koch-Grünberg gives the following names for the Karaiben Arekuná-Taulipang /Arecuna/: "kurá:tana," "kura:tana´," or "kuratanâ" (Koch-Grünberg, 1928, pp. 47, 268). The corresponding Xiriâna designation, namely, "kalatá:ke," is very similar (Koch-Grünberg, 1928, p. 306). This definitely proves that the banana, or at least one variety, reached the Waiká, Xiriâna, Surára, and Pakidái from Karaiben tribes. The myth concerning the origin of the banana, which the Surára chief told me (see p.249), also shows that this fruit came from the outside only in very recent times.

[174]

given me for the other eight varieties (374):

[184] 374. The Waiká, too, use very similar terms for certain varieties of bananas (Zerries, 1956b, p. 153).

/81/

192 245 Designation of the Surára and Pakidái:

pakatarimã

kuratá pauximí

nakaximí

rokojá

rokomã

parauá

roórenvökãkö

xiahíma

Designation of the regional caboclo population:

pacovão

inajá

São Tomé roxa

São Tomé branca

banana maçã (?)

caité

banana bajé

Banana govêrno (375)

[124] 375. Unfortunately, I could not carry out a botanical classification of these varieties.

245 [412] [824] With the help of a digging stick made from the wood of the pupunha palm and 1.60-1.80 meters long, which has a flattened point at the lower end (Ill. 38), or a broken bow-staff, cuttings of banana trees are planted in the clearing, and after only a few months they are full-grown and bear fruit. The work of planting [462] as well as the care of the plants falls to the men, while the women help only with the harvest (376).

[184] 376. Among the Waiká, the plants are cared for by men and women (Zerries, 1956b, p. 153).

Besides the banana, the pupunha palm (Guilielma speciosa Mart.) -- komunamá -- is cultivated to a considerable extent. Cuttings are used for planting, but occasionally seeds as well. These palms, which always stand between the bananas, give the clearings of the Surára and Pakidái a characteristic stamp [481] (Ill. 37). The trunk, 18-20 meters tall, which is covered with pointed thorns -- mimicibá -- and can therefore be climbed only

Surára
Pakidái

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[481]

/81 cont./

with a specially constructed apparatus (see p. 120), bears very narrow, pinnate leaves that are curly at the tips and are always gently swaying in the wind. They stand around the community house like sentinels and seem to be perpetually nodding benevolently and reassuringly to the inhabitants of the large, open maloka (Ill. 6). Their fruits -- maraxá -- (377),

377. The name among the Waiká is very similar -- "lasha" (Zerries, 1956b, p. 149).

50-80 of which form a cluster, are noteworthy. They can be harvested only once a year, between September-April, but each palm has at least three, and sometimes four clusters, that is to say, approximately 200-300 fruits. At first they look yellow, but after ripening they take on a bright red color. In contrast to other palm fruits, they are characterized by especially abundant meat.

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As to the question of whether or not the pupunha fruit has seeds, there are various opinions. Zerries did not find any seedless ones (378). On the other hand, I saw fruits with

378. Zerries, 1956b, p. 149.

seeds and without. This observation is confirmed by statements by Sauer, who writes: "In many cases it has lost the capacity to produce fertile seeds..." /cited in English/ (379).

379. Sauer, 1950 p. 525.

And even Alexander von Humboldt (380) and Vinci (381)

380. Alexander von Humboldt, 1860, III, p. 281.

381. Vinci, 1956 pp. 370-375.

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/81 cont./
mention such seedless fruits (382).

382. Zerries, moreover, thinks it is possible that among the Waiká the pupunha fruit was the predecessor of the mealy banana (Zerries, 1956b, p. 148).

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The cultivation of tubers, which is always done separately from the banana plantings, has hitherto been practiced on only a very modest scale. It includes the cultivation of taioba or taro (Colocasia antiquorum and Xanthosoma violaceum Schott.) -- ohĩná -- (383), cará or yams (Dioscorea

383. Among the Waiká the corresponding name is "ohina" (Zerries, 1956b p. 153).

sp.) -- cabiromá -- sweet manioc, known in Brazil as macaxeira aipim or mandioca doce (Manihot palmata Muell. Arg.) -- mihitarĩma -- bitter manioc (Manihot utilissima Pohl) -- kuamirimakõke --, and sweet potatoes (Ipomoea batatas Lam.) -- hikarĩ -- (384). Worth mentioning

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384. The Waiká call the sweet potato "higali" (Zerries, 1956b, p. 153).

also are the sugar cane plantings (sugar cane (Saccharum officinale) -- bukũs -- (385)) and the absence of maize (386).

385. The Waiká have the same word for sugar cane (Zerries, 1956b, p. 153).

[184]

386. Zerries, to be sure, found evidence of its cultivation by the Waiká. But, he adds, maize "is little more than a rare delicacy" (Zerries, 1956b, p. 153).

2: Becher--249 E-5 (1955-1956) 1960 SQ18 Yanoama SQ18
Surára

/114 cont./

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The Origin of the Banana

In olden times the Surára men were only hunters, and the women gathered the fruits of the jungle. They were unacquainted as yet with any kind of agriculture. One morning, however, when the Surára man Horonamú had arisen especially early and stepped out in front of the maloka, he saw to his astonishment peculiar large plants full of fruits. Immediately he wanted to pick one, but the voice of Poré, the lord of the moon, who, along with the latter, represents the supreme divine power (see p. 197), caused him to stiffen. Poré, however, in a very friendly way, said that he had grown these plants for the Surára and that their name was kuratá. He then ordered him to inform all the members of the tribe that the kuratá should be cultivated, for with it they would never have to suffer hunger again and would not have to rely solely on hunting luck. When Horonamú wanted to express his gratitude, Poré had already disappeared.

The First Pupunha Palms

The Surára were already acquainted with the banana tree, and this was the first plant that they cultivated. One night a japim (Cacicus cela L.) came flying and, on orders from Poré, planted pupunha palms (Guilielma speciosa Mart.) between the banana trees. Early in the morning it wakened the Surára with a particularly loud song, and when they stepped outside their maloka in astonishment, it told them that this palm was called komunamá and its fruits -- araxá -- were good for eating as well as for making a refreshing drink.

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The Creation of the Jibóia-vermelha

Once upon a time there lived the Surára Karemoná, who was very quarrelsome by nature. Every day he mistreated his two wives and quarreled with the other men. He never submitted to the orders of the chief and even tried to undermine the

/187 cont./

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The Guaika (Waica) are considered by the above-mentioned author as "the natives with the most primitive and wild life of all those inhabiting the great region of the Venezuelan Guayana..." They have an incipient agriculture; they cultivate bananas and plantains as the principal basis of their diet, which they complement with the fruit of the pijiguao palm. They practice endocannibalism, consuming the bones of the cremated dead.

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Their hammocks are knotted, their houses are triangular, and they use bows and arrows of various types, according to their uses. They keep the bones of many animals, travel by land, very rarely by water, and build bridges similar to the style of the Guaharibo (Sanemá).

/188/ Regarding the Shirianna (Casapare), Montoya says (1958) that "the real Shirianna live on the banks of river, building very stable settlements and devoting themselves to an agriculture already relatively advanced." They obtain curiaras from the Mayoncon, but have also learned to make their own, although in a rudimentary way. They use bows and arrows for hunting, but "above everything else, they are traders and travelers. They constantly travel into Brazil, leaving from the upper Paragua, using the route of the Shoropae River, Urarikuera and Parima, to Boavista." They differ from the other natives of the Paragua basin in that they are tall and strong, healthy, and well nourished.

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The last report on the Yanoama of the northeast was published by Gheerbrandt (1955, pp. 345-349), and in this report there appears for the first time the name Kaserapai, which must be an orthographic variation of the name Casapare which we use to designate a whole subtribe and not only a local group as the above-named author has done.

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Navigating the Uraricuera in the year 1950, Gheerbrandt met and heard of various Yanoama groups with different names. Very near the Sierra Marutani he came upon the Guadema on the left bank of the river named. The Guadema were very much afraid of the Kaserapai, who had killed the majority of the Guadema and were in open conflict with Waikas and Waitschas on the Uraricuera. It is possible that this may be a reference to an encounter between Sanemá, Waica, and Casapare groups, but the extant data offer no certainty in this regard.

In 1913, Koch-Grünberg[5] had observed that Yanoaman was different from Cariban and that it apparently represented an isolated language. While this opinion was shared by the majority of authors who subsequently referred to the language, two American linguists have recently broken with this tradition by forwarding suggestions of possible affiliations. Greenberg[6] classified "Shirianá" as a distinct group belonging to the "*Chibchan proper*," subfamily of the "*Macro-Chibchan*" family, and Swadesh[7] established a "*Macro-Siriana*" with an internal separation of 50 mc, including Chapecura (27 mc), and Sirioana (21 mc). His later suggested (personal communication) that Waraoan should also be reckoned in "*Macro-Siriana*," which would increase the internal divergence of this microphylum to that of 72 mc. Since the latter suggestion is of major interest to the distribution of the Diego antigen, we shall return to the discussion of the same after having presented the material on the Waica blood groups.

Cultural aspects. The Yanoama are a semi-nomadic forest people who rely for their subsistence chiefly on hunting, gathering, and arboriculture. Fishing is of a very subordinate importance and only peripheral groups, such as the northern Sanemá, have adopted agriculture from neighboring tribes. Although arboriculture is of vital importance among most of the Yanoama subtribes (plantains [*Musa paradisiaca normalis*], and pupunha [*Guilielma gasipaes*]), there can be little doubt that the basic economic and cultural pattern of the Yanoama has remained essentially on a Paleo-Indian culture level of the early hunting peoples of South America.

Yanoama technology is very little developed. The Waica produce thick-walled conical cooking pots, and Yanoama women make large twined carrying baskets. Cordage, belts, and one type of hammock are made of planted cotton, but weaving and metal work of any kind is unknown. Recently, several Yanoama groups have learned how to make dugout canoes, but their crafts and paddles still lack the perfection of the same artifacts among their masters (e.g. Caribs). Very long bows and arrows are the main weapons of these Indians, but stick-clubs may antedate the former.[8]

The local groups of the Yanoama are composed of bands of several extended families with nuclear family households. Residence rules have, as yet, not clearly been established, but judging from the Sanemá of the Erebato and from the

5 Koch-Grünberg, 1913, pp. 455-458.
6 Greenberg, 1956.
7 Swadesh, 1959, p. 20.
8 Only the Waica were reported to make pottery, and the planting of cotton is very recent.

6: Vinci T-5 (1950) 1959 SQ18 Yanoama SQ18
Sanema

one gave a thought to these peaks that towered higher with every bend of the river. Then one afternoon, after a [illegible], they dropped out of sight, and we realized that we had entered a different region. Manuera pointed leftwards, to the mouth of a small river whose water was yellow.

'Pulipuli. Numa,' he told us—Numa being the Shirian and Makiritari pronunciation of 'Luna'. 'There is my home, the home of the Shirians.'

We swung into the mouth of the Luna and tied up under a tall clay bank among a few ill-made canoes—if you could call them canoes, for they looked more like rotten tree-trunks swept on to the little landing-beach in the course of some sudden flood.

Our arrival in the dirty waters of the Luna was a signal for swift and secret flight on the part of the population. Some Shirian youngsters had been hunting a capybara which the throb of our motor scared off. The boys, no less scared than the animal, ran to hide in the nearby huts, spreading the wondrous news that men had come with beards and an engine.

The Moon Valley people occupy a fair-sized wedge of territory in the forests between the Lower Canaracuni and the Caura. Their little huts are sorry imitations of the big Makiritari erections, and they have burned out big patches of forest for the sowing of manioc and bananas. All this is the work of the last twenty years. Not till then did the tribes of the Shirian borderland grow weary of their nomad life, their wars and their plundering expeditions, and decide to set up house and home. Pulipuli became a sort of agricultural centre for the groups living on the Upper Caura, or on the Merehuari and its tributary streams as far as the great mountain saddle between Uana-Coco, Canana, and Uagna. These people here were therefore the most advanced of the Shirians, not only in a geographical sense but also in their culture. Their numbers were continually increasing because they had a magnetic attraction for neighbouring tribes who were still mere primitive forest hunters.

Manuera had married a Pulipuli girl and then joined her tribe. 'Let us build a fine house,' he had told her, 'and I'll come and live with you. I'll bring good manioc and banana roots. We'll plant a big patch, in the proper way we Makiritaris know, and there'll be no lack of food. You Shirians are for ever as hungry as beasts and I can't stomach the worms you eat.'

There was great puzzlement among the old Shirians—those whose hairless heads showed the marks of so many battles and so many robbing and plundering expeditions all through the valley and the Merehuari cordillera as far as the

6: Vinci T-5 (1950) 1959 SQ18 Yanoama SQ18
Sanema

are extremely strong. One quick nip did all that was necessary, and the nails worked with the precision of a pair of hairclippers. Beside her she had a little heap of fine ash, into which she dipped her fingers after every two or three nips. Hairs which interfered with the desired style were plucked out in a manner which might have been expected to bring cries of pain from the patient, but Caio only smiled his usual sweet smile, as if he was apologizing for causing so much trouble.

This operation went on for a good many hours, and we didn't see the end of it. But that evening Caio, Sempronio, and Narcisus trooped into the big hut, proudly displaying haircuts of an enviable perfection.

V

Delay appeared to be the order of the day on the island. Uarema's brother, the elderly one, failed to show up. We were waiting for him because we hoped he might prove a source of further information, and there was also a possibility that he might come with us, taking the place of the expectant father. We passed the time swimming, and walking through the Soco plantations, which had now been almost strangled by the forest. After turning over practically every leaf, we found a few ripe pawpaws and plenty of *tapi*. The first-named is almost a wild fruit in this region: the Indians cultivate a small type no bigger than an orange but full of flavour. The second is the doubtful fruit of one of the solanaceæ, in shape, colour and flavour halfway between a tomato and a melon. We cooked these sometimes with salt, sometimes with sugar, and turned them into a kind of marmalade. At the first tasting it aroused our enthusiasm, but at the next it made us sick. We were forced to find some substitute for our provisions, now reduced to very small quantities: we had no rice, tinned meat or white flour left, besides being out of other more important commodities, but we still had plenty of coffee—though not sugar—and salt and powdered milk.

All our expeditions from now on, especially the Samatari venture which we were silently preparing, would have to rely on hunting and fishing for supplies. All we could take with us was coffee, which Enrico and I could drink unsweetened, and plenty of salt, with a little powdered milk 'in case of sickness', we told each other cheerfully. For this contingency, we didn't lack for medical supplies. As always, we had more than we could comfortably carry.

*628 the Yąnomamö when they make new gardens. The relative
361 location of friendly and hostile villages with respect to the
241 new site is very important. The Monou-tedi moved west in 1965, clearing their new site in the direction away from their major enemies, the Patanowä-tedi. Their allies, the Mõmaribõwei-tedi and the Reyabobõwei-tedi, lived to their west. Furthermore, their old enemies, the Mõwäraoba-tedi and Iwahikoroba-tedi, lived to their southeast, a direction the Monou-tedi wished to avoid. Finally, by moving to the west, the Monou-tedi crossed a large river (Mavaca), a natural barrier that would interfere with the retreat of raiding parties that initiated in the east.

361 Another factor influences the choice of site when the
241 members of a village must abandon their existing garden: the
• 245 location of a previously cultivated site. Old gardens are desirable sites because they continue to produce peach palm long after they are deserted. As the fruit of this palm seasonally provides an important and desirable addition to the diet of the Yąnomamö, they prefer to move into an old garden rather than start a new peach palm grove from seedlings. The Yąnomamö frequently return to their old, abandoned sites
361 in order to harvest the peach palm crop. This is usually a
241 dangerous undertaking, as their old enemies are also aware of
245 the fruit, and exploit it themselves. In February 1965 I
114 accompanied a group of Bisaasi-tedi men to Barawä-tëka,[1]
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[1]See Map C, and Chapter 5.

abandoned in about 1959, to harvest the peach palm of that garden. We approached the site with great caution lest we run into a group of Patanowä-tedi. We discovered that somebody, probably the Patanowä-tedi, had beaten us to the garden and harvested the fruit.

During 1965 raids were so intense on the Patanowä-tedi that they were forced to abandon their site at Patanowä-tëka. The Bisaasi-tedi and the Monou-tedi predicted that the Patanowä-tedi would make their new site at one of two possible locations: Shihota or Shamata, two abandoned gardens. Their predictions were right on both counts, for the Patanowä-tedi began utilizing both sites because peach palm was to be found at either. By occupying two sites, the Patanowä-tedi were also better able to avoid their enemies by moving frequently from one to the other.

The several variables to be considered in re-locating villages during especially hostile wars may be briefly summarized: (1) the members of a village will make their new garden site in a direction away from their major enemy; (2) if the members of a village have allies, they tend to make their new garden in the direction of these allies, provided that the direction brings them no closer to their enemies; (3) if abandoned villages whose gardens contain producing groves of peach palm are to be found in a suitable direction from the old site, these will be the ideal choices for new garden sites.

The cultivation practices of the Monou-tedi in 1965

only in killing a man from Konabuma-tedi. This man was living with the Namowei-tedi while performing bride service. The Namowei-tedi reciprocated the raiding and captured many women. Some of these women are still living with the Bisaasi-tedi (Yanarima, Waiyuruma, Hekurama, and Hikarima) and the Patanowë-tedi (Ishinarima, Rubrobemi, Rokuobemi, and Shiaomi), one died of a snake-bite shortly after her capture, two died recently after reproducing in Patanowë-tedi (Reisimi and Brararama), and three escaped (Breiurama, Darama, and Boroama).

(2) Around 1940 the Namowei-tedi split into two factions, each making a new garden further up the Shanishani-u River and abandoned Patanowë-tëka. The move was stimulated by the frequency of fighting within the village: "We were many and were always fighting with each other," said one of my informants, "so we decided to separate from the others in order to keep peace." Both groups claimed ownership of the peach palm trees each had planted at Patanowë-tëka, and returned to collect the fruit each season from their new gardens. Ownership rules stipulate that peach palm trees belong to the individual who plants them. A man from one of the factions took the palm fruit belonging to a man from the other faction one year; the latter reciprocated by stealing plantains from the garden of the former, precipitating a club fight between the two villages. The club fight temporarily settled the dispute, but the two groups parted on strained terms. The smaller (Brararabõwei) of the two factions abandoned their site, fearing that they would be raided by the other group (Wanidima),

villages (Bisaasi-tedi, Mǫmaribǫwei-tedi, and Karohi-tedi). These ashes were to be consumed prior to revenge raids on the Patanowǟ-tedi. The Monou-tedi then set about transporting plantain cuttings to their new garden and spent the next several weeks working on the garden. They intended to delay their revenge raid until the beginning of the rainy season in order to make it difficult for the Patanowǟ-tedi to raid them in return. The Monou-tedi moved into Bisaasi-tedi at the end of March both for military protection and for respite from their heavy agricultural labors. They stayed with the Bisaasi-tedi until the end of April, fearing that they would be raided by the Patanowǟ-tedi if they returned to their own village before the rains started. They also planned to raid the Patanowǟ-tedi from Bisaasi-tedi at the beginning of the wet season, knowing that a revenge raid from Patanowǟ-tedi would be difficult once the rains started. They could return to their own village during the rainy season, as the jungle separating their village from the Patanowǟ-tedi is inundated at this time of the year and cannot be traversed.

On April 19th the Bisaasi-tedi sponsored a mortuary feast for the slain Monou-tedi headman in preparation for the revenge raid. The participants in the revenge raid were to include the Mǫmaribǫwei-tedi, but they did not arrive as scheduled, so the raid was delayed until the 21st. Only a few Mǫmaribǫwei-tedi arrived to participate in the raid, and the Bisaasi-tedi immediately suspected that the Mǫmaribǫwei-tedi were plotting to abduct women from them after

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Fig. 2-1. A Yąnomamö village and plantain garden, aerial view (Toototobi River, Brazil).

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TRAILS AND TRAVEL. Trails lead out from the village in several directions. Some of them terminate in the gardens that surround the village, but a few of them continue on into the jungle and lead eventually to other villages. The unexperienced eye would not recognize them as trails, as they are hardly more than winding paths through brush, over or around logs, through streams and swamps, and up hills. The Yąnomamö take the most direct route to their destination, regardless of the terrain. A foreigner learns how to recognize a trail only after considerable experience. The most telltale signs are the numerous broken twigs at about knee height left by Yąnomamö travelers who compulsively keep their hands occupied snapping off brush and twigs as they walk. Another sign is the occasional log that is worn smooth from the tread of numerous travelers who prefer to walk along a log rather than go around it.

The most commonly used trail from Kąobawä's village leads to the two Shamatari villages, Reyaboböwei-teri and Mõmariböwei-teri, southwest of Upper Bisaasi-teri. Hardly a week goes by in the dry season without a few individuals making a trip from one of these villages to Bisaasi-teri or vice versa. A group of young men can make this trip in one day if they walk rapidly and leave early in the morning. Older men, women, and children must plan on a two day journey, as they walk more slowly and rest more frequently. There are a number of temporary shelters along the trail built by previous visitors, so the traveler does not have to spend much time putting one of these into repair should he decide to camp overnight.

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11: Chagnon E-5 (1964-1968) 1968 SQ18 Yanoama SQ18

black, heavy, and very brittle. It breaks easily, but the pieces are used by the men as grinding surfaces for their drug manufacture, or as baking dishes when the women make cassava bread. As we shall see below, only a few villages make the clay pots and trade them to the members of other groups.

The most distinctive feature of Yąnomamö technology is that it is very direct.[4] No tool or technique is complicated enough to require specialized labor or raw materials. Each village, therefore, can produce every item of material culture it requires from the jungle resources immediately around it. That is, the simplicity of the tools, the processes of manufacture, and the distribution of resources are such that each village can exist independently of its neighbors as far as technological requirements are concerned. Nevertheless, some specialization in trade and manufacturing does occur, but it seems to be more closely related to the development of political alliances and is therefore discussed in a later chapter. I will describe the material culture at this point and relate it to the over-all adaptation later in this and following chapters.

WEAPONS Wood for bows is obtained from two species of palm tree, one that grows wild and one that is cultivated.[5] The bow is very heavy because palm wood is extremely dense. One cannot, for example, drive a nail into palm wood. The fibers that go into the thick bowstring come from the inner bark of a tree; these are twisted into a cord by rolling them with the palm of the hand against the thigh. The cord is so strong when it is new that it can be used as a hammock rope, but it deteriorates with age and must be replaced periodically. The bow itself is shaped with the lower jaw of a large, wild pig. The canine teeth in the pig's lower mandible are worn to razor-sharp edges by chewing and make magnificent cutting tools; the bow stave is held vertically and the mandible is planed up and down the surface, each upward stroke shaving off a fine layer of wood. After much labor and patience, the bow is completed. It has a circular or oval cross section and is very difficult to draw. Most Yąnomamö bows would compare favorably to our best hunting bows in strength.

Palm wood is also used for one type of arrow point. A splinter of palm wood about 15 inches long is smoothed down to a fine point, and several lateral grooves are cut into it along its length. This is done so that the point will break off in the body of the target. This type of point is covered with curare poison, which slowly dissolves in the animal (or man) after the point has broken off. This point is used most frequently for monkey hunting, as monkeys tend to grab hold of branches and tree trunks when they are wounded. The curare relaxes their muscles, and the monkeys sooner or later fall to the ground. Unless the point were coated with curare, the animal might die high in the treetops and could not be easily recovered. The Yąnomamö also carry large supplies of extra palm points in their bamboo quivers since these points break whether or not the arrow strikes the intended target. This type of point is manufactured in large quantities in several villages and is traded to other groups.

The curare vine is also collected wild from the jungle. It is soaked in hot water to leach out the active ingredient. The water containing the poison is then painted onto the palm-wood points over glowing coals; the water evaporates, leaving a brown, sticky

[4]For more details on Yąnomamö material culture than are given here, see Becher (1960) and Zerries (1964).

[5]The cultivated palm, *pïjïgnan*, produces a desirable fruit. It is cultivated for the fruit, but the wood of dead palms is used in bow manufacturing.

276 [412] powder as it dries, the flat side of a stone axe[8] serving as the grinding pestle. The dried, green powder, no more than several tablespoons full, is then swept onto a leaf with a stiff feather. The men then gather around the leaf containing the drug, usually in the late afternoon, and take it by blowing the powder into each other's nostrils (see Fig. 2-3). A small quantity of the powder is introduced into the end of a hollow cane tube some 3 feet long. The tube is then flicked with the forefinger to scatter the powder along its length. One end of the tube is put into the nostril of the man taking the drug, and his helper then blows a strong blast of air through the other end, emitting his breath in such a fashion that he climaxes the delivery with a hard burst of air. Both the recipient and the blower squat on their haunches to do this. The man who had the drug blown into his nostrils grimaces, groans, chokes, coughs, holds his head from the pain of the air blast, and duck-waddles off to some leaning post. He usually receives two doses of the drug, one in each nostril. The recipient usually vomits, gets watery eyes, and develops a runny nose. Much of the drug comes back out in the nasal mucus that begins to run freely after the drug has been administered. Within minutes after the drug has been blown into a man's nose, he begins having difficulties focusing his eyes and starts to act intoxicated. The drug allegedly produces colored visions, especially around the periphery [187] of the visual field, and permits the user to enter into contact with his particular *hekura*, miniature demons that dwell under rocks and on mountains. The man begins to chant to the *hekura* when the drug takes effect, inviting them to come and live in his chest.

• 245 276 The Yąnomamö also cultivate a tree, *hisioma*, that produces hallucinogenic seeds. These are prepared in exactly the same manner as the noncultivated drug.

322 396 TROUGHS AND CANOES The Yąnomamö use the bark of another kind of tree to make a trough and a crude canoe, both of which are nearly identical in shape, size, and method of construction. The tree is beaten with clubs to loosen the bark. The bark is then removed in one piece and hauled back to the village. The ends are heated in a fire to make them pliable and folded back to make the ends of the container. They are held firm by lashing two sticks together, pinching the folded bark into a flat-nosed basin. The interior bark surface becomes the exterior surface of the soup container. If the container is to be used as a canoe, a crude framework of sticks is added to the inside, giving 501 it more stability. The craft is so crude and heavy that the Yąnomamö generally do not use it for any purpose other than the trip for which it was intended, usually a downstream trip, since it would be almost impossible to move against a current in this rough craft. It is easier to walk than to try to pole the canoe upstream. The canoe, hence, is usually discarded after it makes its maiden voyage. Another will be made when it is needed.

415 574 264 The container is pinioned to the ground with stakes if it is to be used as a soup trough. Each time a feast is held, one or more of these bark containers is made in front of the headman's house, filled with the boiled ripe plantain soup, and frequented by the hungry guests, who dip out the soup with gourd spoons. The trough is thrown on the village rubbage heap after the feast is over.

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[172] [8]They find the stone axes when they make new gardens, explaining that the spirits left them behind for the Yąnomamö to use. This area was occupied in the distant past by tribes whose relationship to the present Yąnomamö is uncertain.

Today, however, steel tools are quite common, being provided by the several missionaries who have recently located posts at a number of locations in Yąnomamö territory. The tools that they give to their local people are eventually traded inland to more remote villages so that all the Yąnomamö, even those who have not yet had any direct contact with outsiders, now have steel tools.[7] Before the missionaries arrived, the Yąnomamö occasionally obtained steel tools from the Carib-speaking Makiritare Indians, who have long been in contact with civilization. Some of the Makiritare made periodic canoe trips in the last century as far east as Georgetown in order to obtain these tools. Kąobawä told me that when he was a young man, his village had a single piece of steel, a portion of a broken machete that came ultimately from the Makiritare Indians by way of several intermediate Yąnomamö villages. Everybody in the village used this tool when they made their gardens. It was hafted on a split stick and used as an axe. I have seen broken machetes used in this fashion in the more remote, steel-poor villages.

The Yąnomamö usually fell the big trees toward the end of the wet season, although I have seen them do it at all times of the year. In general, the clearing of the land tends to be an activity of the wet season while the burning is done during the dry season, but this schedule is by no means rigorous. An adequate burning can be achieved at the peak of the rainy season, provided that there are two days of sunshine in succession. The dead brush and the leaves of the large trees dry out rather quickly in the sun, provided that they have been lying on the ground for a sufficiency long period of time. The trunks of the large trees are never burned, so that a newly cleared garden is strewn with logs lying helter-skelter all over the cleared patch. These serve as boundaries between individual gardens, as the crops belong to the person who plants them.

Each man clears his own land. Brothers will usually clear adjacent portions of land and, if their father is still living, his garden will be among them. The headman of the village generally has the largest garden, as he must produce larger quantities of food; he is obliged to give food away at feasts. He can frequently enlist the aid of other men to help him make a large garden. Kąobawä, for example, is helped by a younger brother, a brother-in-law, and the latter's son. Once in a while one of his sisters who lives in a different village visits for a long stretch of time, and her son-in-law also helps Kąobawä work in the garden during these visits.

After the brush has dried out and the larger trees felled, the portable timber and brush is gathered up into piles and burned, each man having several fires going in his own patch, to which he hauls the brush as he gathers it up. Usually, the fires are built under or next to one of the larger logs. In this way the logs dry out even more completely and can be easily chopped up by the women for firewood. The ashes are not scattered to improve soil fertility.

If the new site is a great distance from the previous garden, the men will have to make numerous trips between the two sites in order to transport the plantain cuttings. If an ally's village is closer to the new garden site, some cuttings can be borrowed from his gardens, thereby reducing the transportation labor. Each mature plantain or banana plant sends out suckers which sprout a few feet away from the adult stalk. When the Yąnomamö cut the bunch of plantains or bananas from the producing plant, they also cut the entire plant down to permit the younger suckers to receive the sunlight. The larger

[7] One missionary told me that he has given the residents of his village approximately 3000 machetes over the past eight years! These are traded inland to more remote Yąnomamö.

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a newly planted sucker, the more quickly it will bear fruit. Hence, if the Yąnomamö wish to establish a garden that will produce a crop in the shortest period of time, they must plant large cuttings. These can weigh up to 10 pounds each, and transportation of the cuttings becomes a tremendous task.

As will be made clear later, most long moves are usually stimulated by warfare, and the group is under some pressure to establish a new garden as quickly as possible. The Yąnomamö can speed up their schedule of abandoning an area by taking temporary refuge in the village of an ally, by planting crops other than plantains that mature quickly and produce high yields, or by anticipating a serious war and getting an early start on their new garden. When Kąobawä's group was forced to abandon one of its locations because of a war, the group took refuge with an ally and established its new garden near the ally's village. One of the consequences of these factors is that newly established gardens produce their crops in cycles so that there will be periods of plenty interrupted by periods of hunger. After a few years, the garden will mature and produce constantly. The periods of hunger are eased by planting rapidly developing crops such as maize and by working constantly at transplanting the secondary plantain shoots as they appear. Thus, gardening activities vary largely with the relative maturity of the garden and the length of time the people have been living at that site. Once the plantains are producing constantly, other crops are not cultivated as intensively as before. But whatever the Yąnomamö are eating in a given village, they are striving to get their gardens to produce a constant supply of plantains. The fact that a given village may be relying very heavily on maize at some point in time may reflect no more than the fact that the garden is relatively new and the plantains have not yet begun producing constantly.

After a site has been occupied a few years, gardening activities take on a more regular pattern. The "rectum" (*hei kä hasi*) of the garden is gradually abandoned, and a new "nose" (*hei kä hashibö*) is added by clearing adjacent land and transplanting crops. Thus, a garden has a direction—it moves, little by little. Sometimes there will be as many as three or four discrete gardens around a village, all of them producing more or less continuously. The older ones are gradually abandoned because it is simply easier to clear new land than to attempt to weed the thorny underbrush out of the old site. If you have ever attempted to clear prickly brush without wearing protective clothing, you should immediately see the wisdom of the Yąnomamö choice.

In an established garden site, labor follows a more regular pattern. The dry season is usually the time for feasting, visiting, trading, and warfare. Gardening activities are at a minimum at this time of year, but the ambitious will try to work a few hours each day at weeding, transplanting, and burning brush. Most of the heavy labor of felling large trees is restricted to the wet season, when it is cloudy and generally cooler, and the demands of feasting and dancing do not interfere with the work. Still, practical considerations are more important than a fixed schedule of work, and if the gardens are producing insufficient quantities of food, the Yąnomamö will expand their gardens at any time of the year.

GARDEN PRODUCTS Each man's garden contains three or four varieties of both plantains and bananas. The larger portion of the cultivated land will contain plantains, as they produce a higher yield than bananas. The garden will also have a sizeable patch of sweet manioc, a root crop that is boiled or refined into a rough flour by grinding it on a rock and then converting the flour into thick, round cakes of baked cassava bread.

244 [177] [252] [499] Many of the Yąnomamö villages have recently obtained bitter manioc, a poisonous variety that must be leached of its toxic ingredient before it can be eaten. This variety is grown in large quantities by the Carib-speaking Makiritare Indians-and by rural Venezuelans-and most of it has been introduced to the Yąnomamö recently by missionaries. Where the Yąnomamö are in direct contact with the Makiritare, they have, of course, adopted the crop without the intervention of the missionaries.

Next in importance are three other root crops: taro, sweet potatoes, and mapuey. [252] All of these resemble potatoes; they are usually boiled, but occasionally they are roasted directly over the coals.

245 [423] The Yąnomamö also cultivate a species of palm tree that produces a large crop of fruit each February and a much smaller crop in June. Each tree is owned by the individual who planted it, and his rights to the fruit continue even after the garden has been abandoned. It takes about six or seven years for a newly planted tree to produce its first crop, so the Yąnomamö are quite reluctant to move very far away from sites where they possess producing groves of these trees. When they do move, they return each year to collect the peach-palm fruit. They try, as well, to move to an abandoned garden that still has producing peach palms. If thieves have been raiding the unguarded crop, the Yąnomamö may cut the trees down, keeping the wood to make bows. They would sooner destroy an item of personal property than permit others to exploit it without permission.

243 [262] Maize is probably next in importance, but in a special sense. It appears to be cultivated as an emergency crop because its seeds are light and easily transported. A group that must move its garden a long distance can carry large quantities of maize seed and produce a substantial crop in a relatively short period of time. Maize does not, however, under normal circumstances, figure prominently in the daily diet of the Yąnomamö.

Cane for arrow manufacturing is also grown. The mature plant consists of a long, slender, pithy cane that has no joints or branches and is ideally suited for arrow shafts. The Yąnomamö use the cane just as they harvest it. Their arrows are over 6 feet long. Wing feathers from the larger species of wild turkey are used to fletch the arrow. On [237] each side of the shaft, one feather is tied with finely spun cotton fibers, being attached in such a way that the arrow will spin when it is released; its accuracy is thus improved in the way a bullet's accuracy is improved by rifling in a gun barrel. A nock is carved [322] from wood with an agouti-tooth knife; it looks very much like a golf-ball tee when finished, except that it is grooved at the large end where it will be fitted to the bowstring. [314] [284] The nock is inserted in the narrow end of the cane and held fast with pitch adhesive and a tight wrapping of fine cotton thread. The large end of the cane is not altered if it is to take a curare tip, since it tapers to a fine point and, therefore, blends into the thin curare point. If the point to be mounted is of the lanceolate type, the tip of the cane is cut off at its maximum diameter, wrapped with heavy cord, and the point jammed into the cane pith with considerable force. The fiber wrapping prevents the cane from splitting while the point is being mounted. The finished product is a very handsome piece of work, and the Yąnomamö are proud of their arrows. They decorate the bamboo [531] points by painting them red and adding black designs, and they attach a few colorful [422] feathers to the fletched end. A seasoned arrow is a prized possession, in high demand in [437] the trading network.

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general area, but too hostile to remain together in a single village. Largely due to food theft, their mutual political relationships gradually worsened. The two groups returned to the old site in order to harvest the fruits of the cultivated peach-palm tree, as each tree is owned by the person who plants it. Some of the fruit belonging to a man in one of the groups was stolen by a man in the other group. This led to a club fight between the two villages, after which they parted on hostile terms. The group that included Kąobawä decided to abandon their new garden and establish another one further away, anticipating a raid from the other group. Ultimately, the members of the two villages began raiding each other and entered into a prolonged and bloody war that was still raging when I left the field in 1967.

About 1949, to avoid the Patanowä-teri raids, Kąobawä and his group moved to an even more remote location. From here, they began visiting one of the Shamatari villages, Iwahikoroba-teri, located to the south of them. Unfortunately, the people of Iwahikoroba-teri were allied to the Shamatari group (Ruwahiwä's village) with which Kąobawä's group was at war. At the instigation of Kąobawä's enemies, the Iwahikoroba-teri invited his group to a feast during which many of them were treacherously killed, including Kąobawä's father. This incident took place sometime in the period December-January of 1950–1951. The survivors, many of them badly wounded, fled to a newly cleared garden site they had established a day's walk north of their village. They returned to their village only to obtain food, which they carried back to their new but nonproducing garden. After the wounded had removed the arrow points and were on the road to recovery, the group moved back into their producing garden. By this time word of the treachery had spread to all the villages in the area. The headman of Mahekodo-teri, the only village located on the Orinoco River in 1950, visited Kąobawä's group and invited them to take refuge with his people.[15] Kąobawä and his group readily accepted the invitation, and they moved into Mahekodo-teri, knowing that they could prosecute the war with the Shamatari only if they had allies and could raid from a great distance. Their own village was too close to Shamatari territory, and their capacity to raid was greatly reduced after so many of their men had been killed.

Kąobawä knew that the generous offer from the Mahekodo-teri was not entirely stimulated by altruistic motives. In 1910 his group had been forced to take refuge with an ally because of a war; the ally demanded in return many of the guests' women. Similarly, the Mahekodo-teri coerced Kąobawä's group into ceding a number of women, the price a weakened and dependent village must pay for the support of a stronger ally. It was later learned that the Mahekodo-teri planned to kill the rest of the men and abduct all of the women, but an unexpected war delayed their plot. (See Chagnon 1966.) Two of Kąobawä's sisters were among those claimed by the Mahekodo-teri; one of them still lives there, and the other was taken away from her Mahekodo-teri husband by force by Rerebawä's brother.

Kąobawä and his group lived with their protectors off-and-on for about a year, while they worked assiduously at making their new gardens. Because of internal fighting, they decided to make two new gardens and form two separate villages. The year was

[15] James P. Barker of the New Tribes Mission had just moved into Mahekodo-teri a few months earlier, marking the beginning of the Yanomamö's first sustained contact with any outsiders. He witnessed the arrival of Kąobawä's group.

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Although few raids are initiated solely with the intention of capturing women, this is always a desired side benefit. A few wars, however, are started with the intention of abducting women. I visited a village in Brazil in 1967 that had a critical shortage of women. A group of missionaries had moved into this village a few years earlier and learned of the treachery by which the group managed to obtain a number of their women. One of them gave me this account. The headman of the group organized a raiding party to abduct women from a distant group. They went there and told these people that they had machetes and cooking pots from the foreigners, who prayed to a spirit that gave such items in answer to the prayers. They then volunteered to teach these people how to pray. When the men knelt down and bowed their heads, the raiders attacked them with their machetes and killed them. They captured their women and fled.

Treachery of this kind, the *nomohoni*, is the ultimate form of violence. Kąobawɨ's group suffered a massacre in 1950, as I have mentioned earlier, but the treachery in this case was in revenge for a murder. Still, their assailants attempted to abduct women after the objectives of their treachery were accomplished. Had it not been for their greed to capture women, the massacre would have been even more complete. Many escaped because the assailants turned their attention to the women.

Generally, however, the desire to abduct women does not lead to the initiation of hostilities between groups that have had no history of mutual raiding in the past. New wars usually develop when charges of sorcery are leveled against the members of a different group. Once raiding has begun between two villages, however, the raiders all hope to acquire women if the circumstances are such that they can flee without being discovered. If they catch a man and his wife at some distance from the village, they will more than likely take the woman after they kill her husband. If, however, the raiders are near the village, they may flee without dragging a captured woman along, as the body of their victim will be discovered quickly and pursuit will be immediate. Hence, they do not take a chance on hindering their flight by dragging a reluctant captive with them. A captured woman is raped by all the men in the raiding party and, later, by the men in the village who wish to do so but did not participate in the raid. She is then given to one of the men as a wife. If the captured woman is related to her captors, she is not raped.

Most wars are merely a prolongation of earlier hostilities, stimulated by revenge motives. The first causes of hostilities are usually sorcery, murders, or club fights over women in which someone is badly injured or killed. Occasionally, food theft involving related villages also precipitates raiding. This was the cause of the first raids between Kąobawɨ's group and the Patanowɨ-teri; they split from each other after a series of club fights over women. Each group made a new garden and returned periodically to the old one to collect peach-palm fruit, a crop that continues to produce long after the garden itself has gone to weeds. Someone stole the peach-palm fruit belonging to a man in the other group, resulting in another food theft for revenge, a club fight, and then raiding, but it should be pointed out that the raiding came about only after a long history of disputes between the groups; food theft was merely the catalyst that finally initiated the hostilities.

The Yąnomamö themselves regard fights over women as the primary causes of their wars. I was in one of the more remote villages in 1967, visiting with people I had met on my first field trip. The headman of the village, Sïsïwɨ, coveted my British commando knife and kept begging me to give it to him. He wanted me to tell him all about the knife, its origin, history, and how often it had been exchanged in trades. When I told